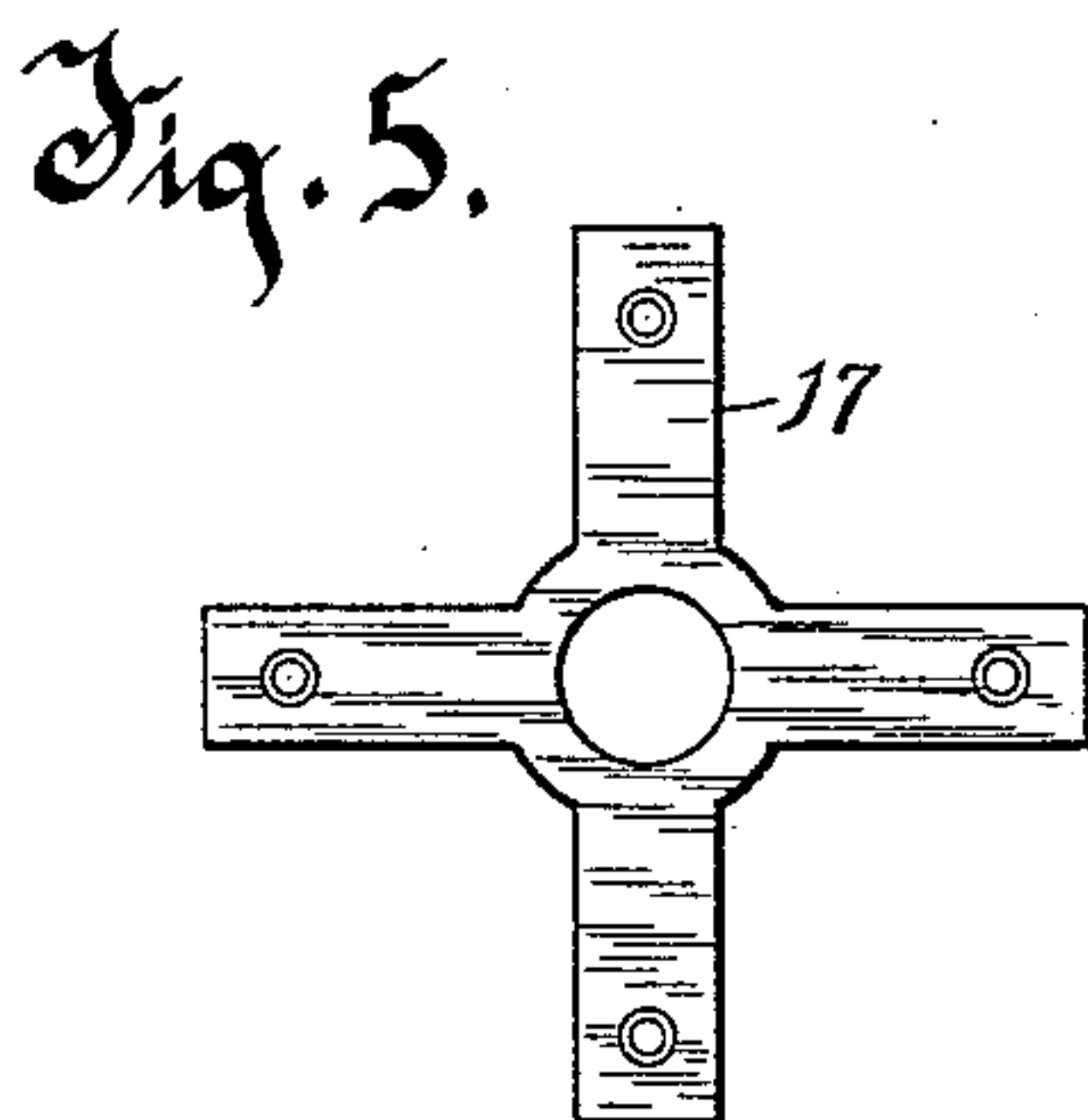
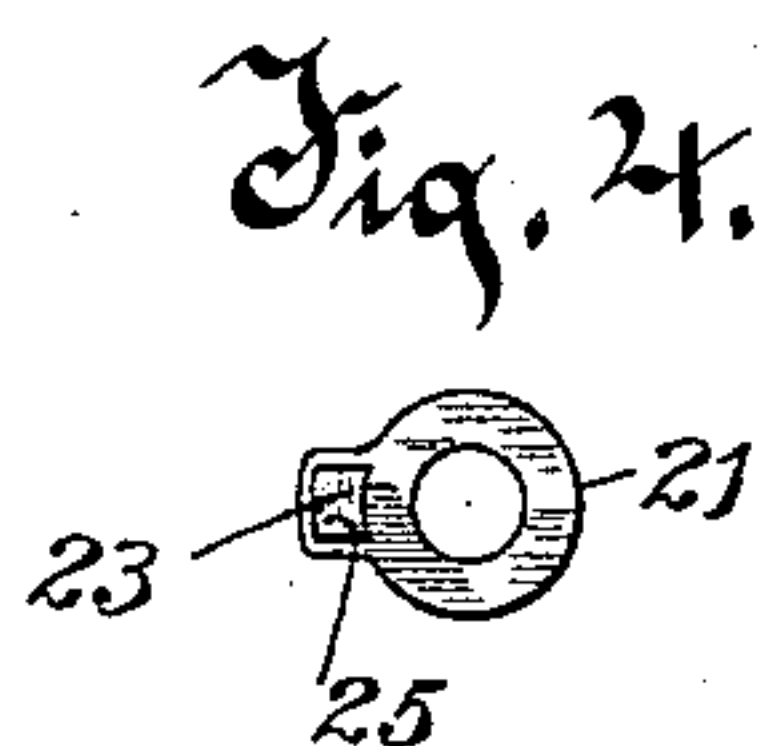
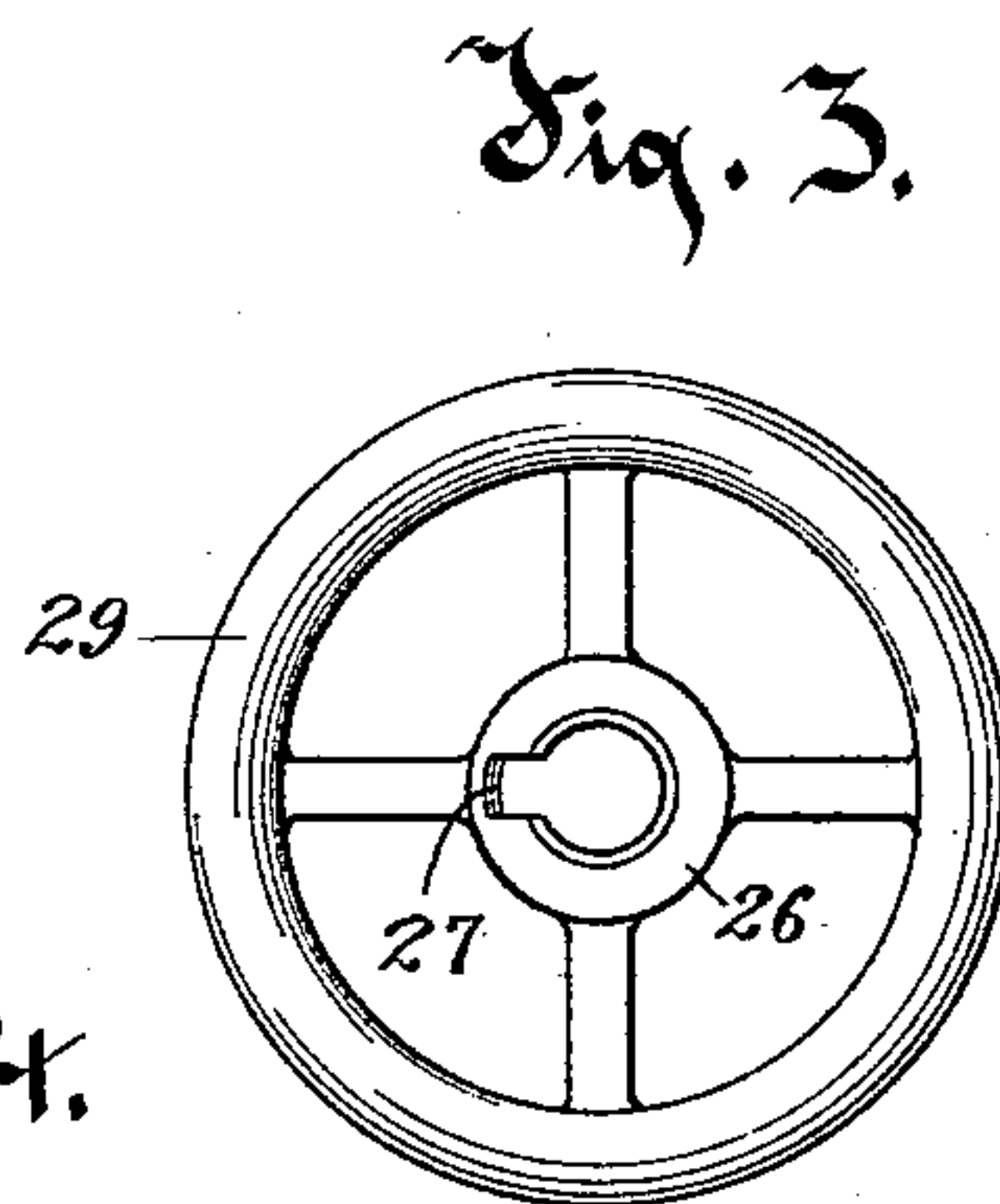
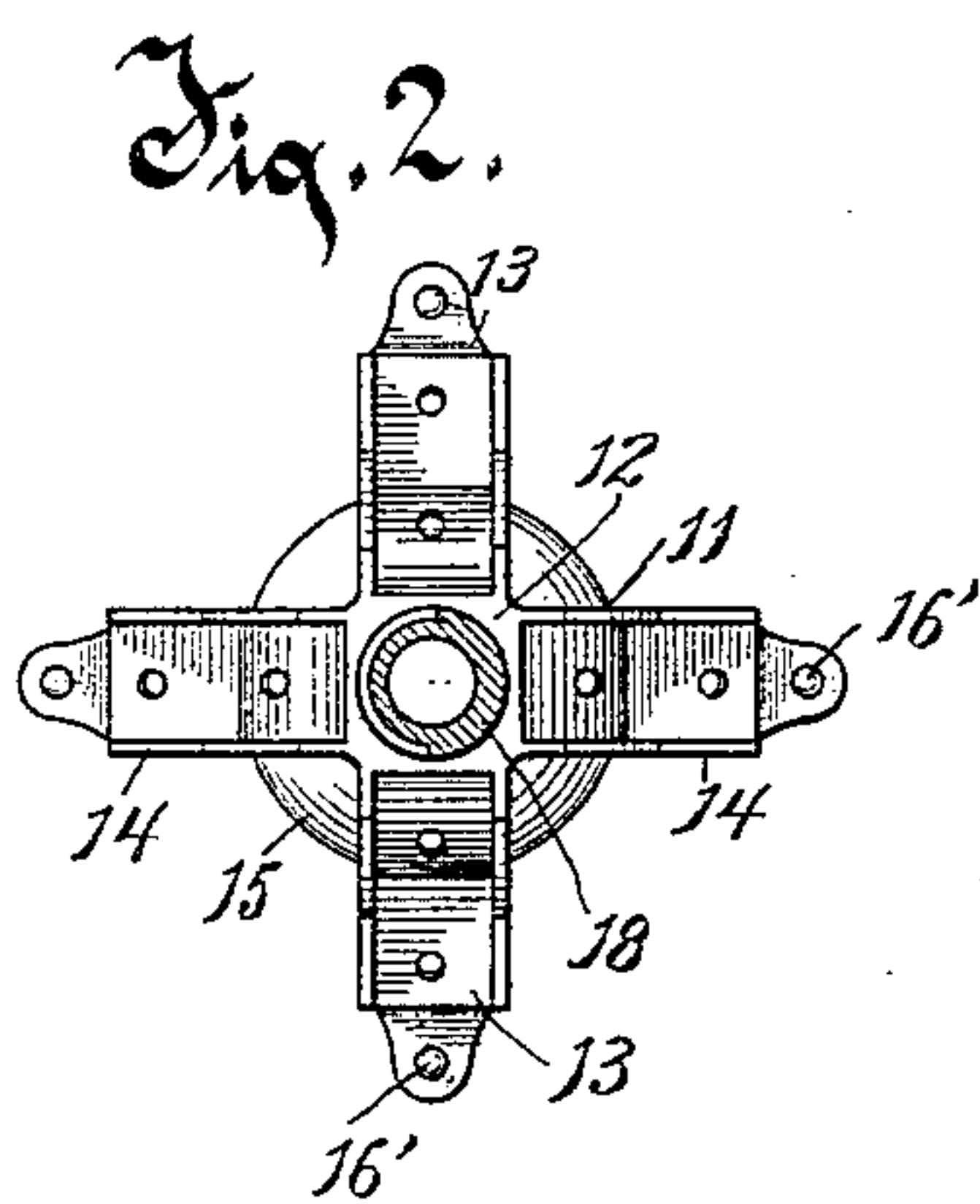
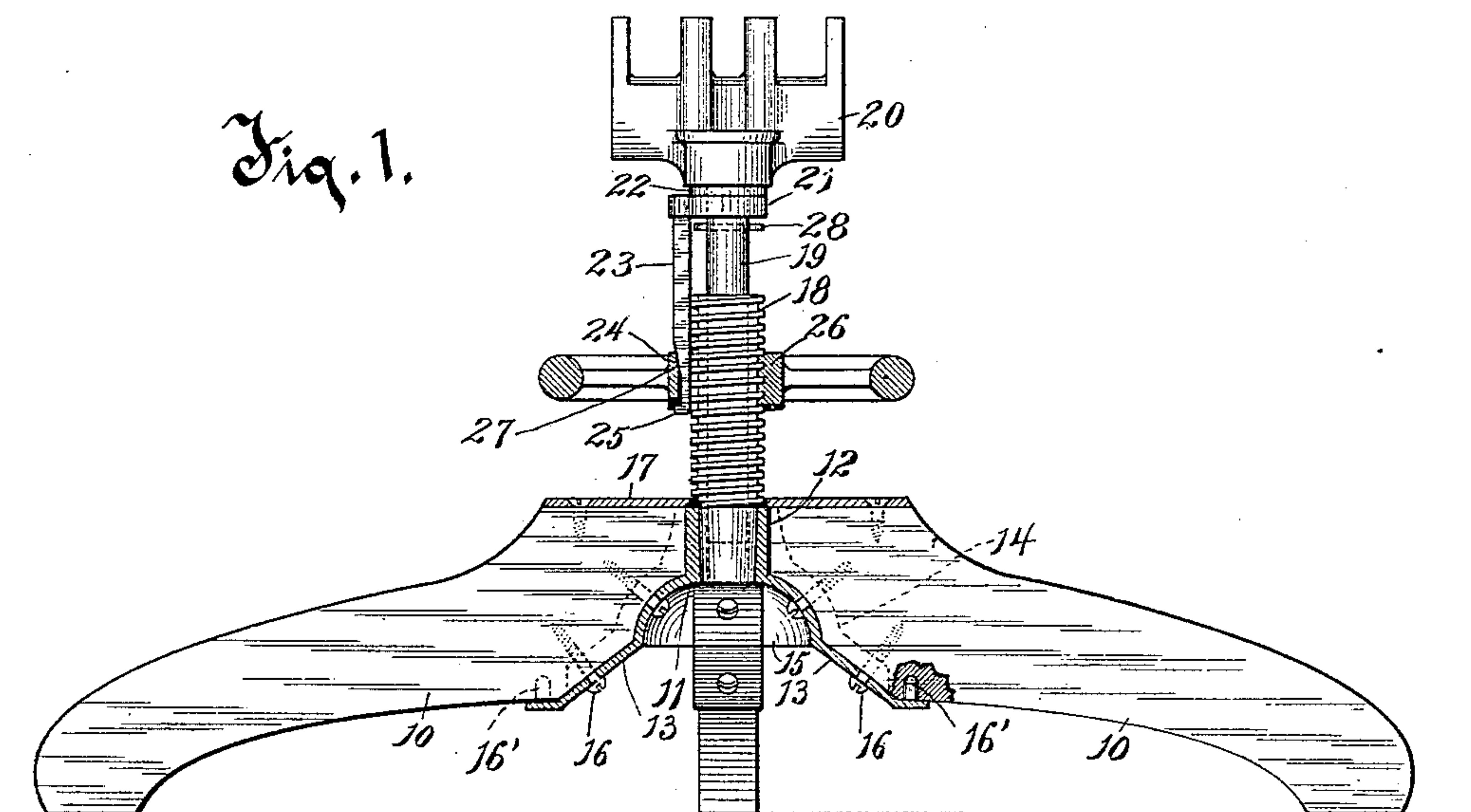


C. C. & F. TRAPP.  
REVOLVING CHAIR.

No. 602,489.

Patented Apr. 19, 1898.



Witnesses.

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Fig. 6.

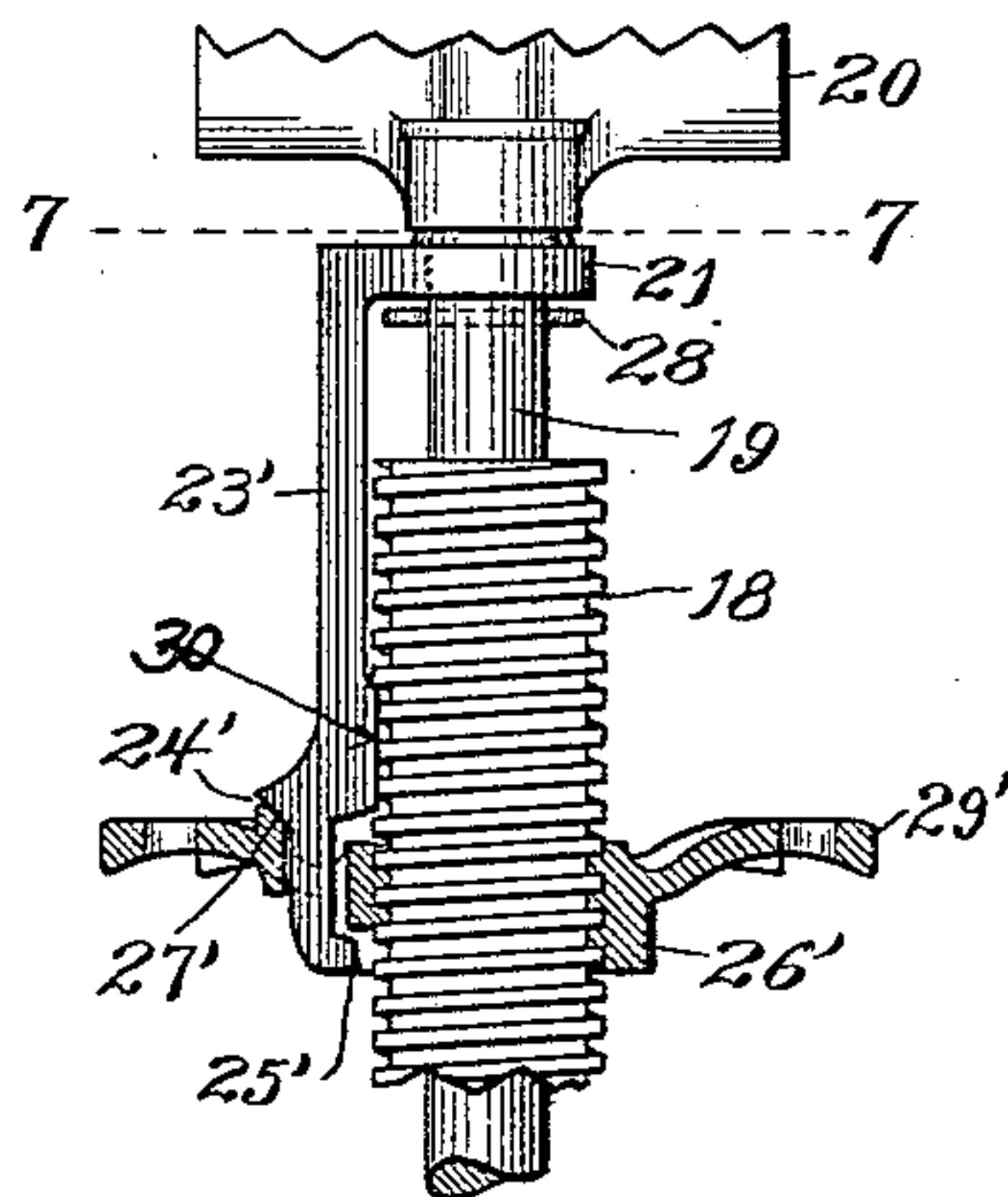


Fig. 7.

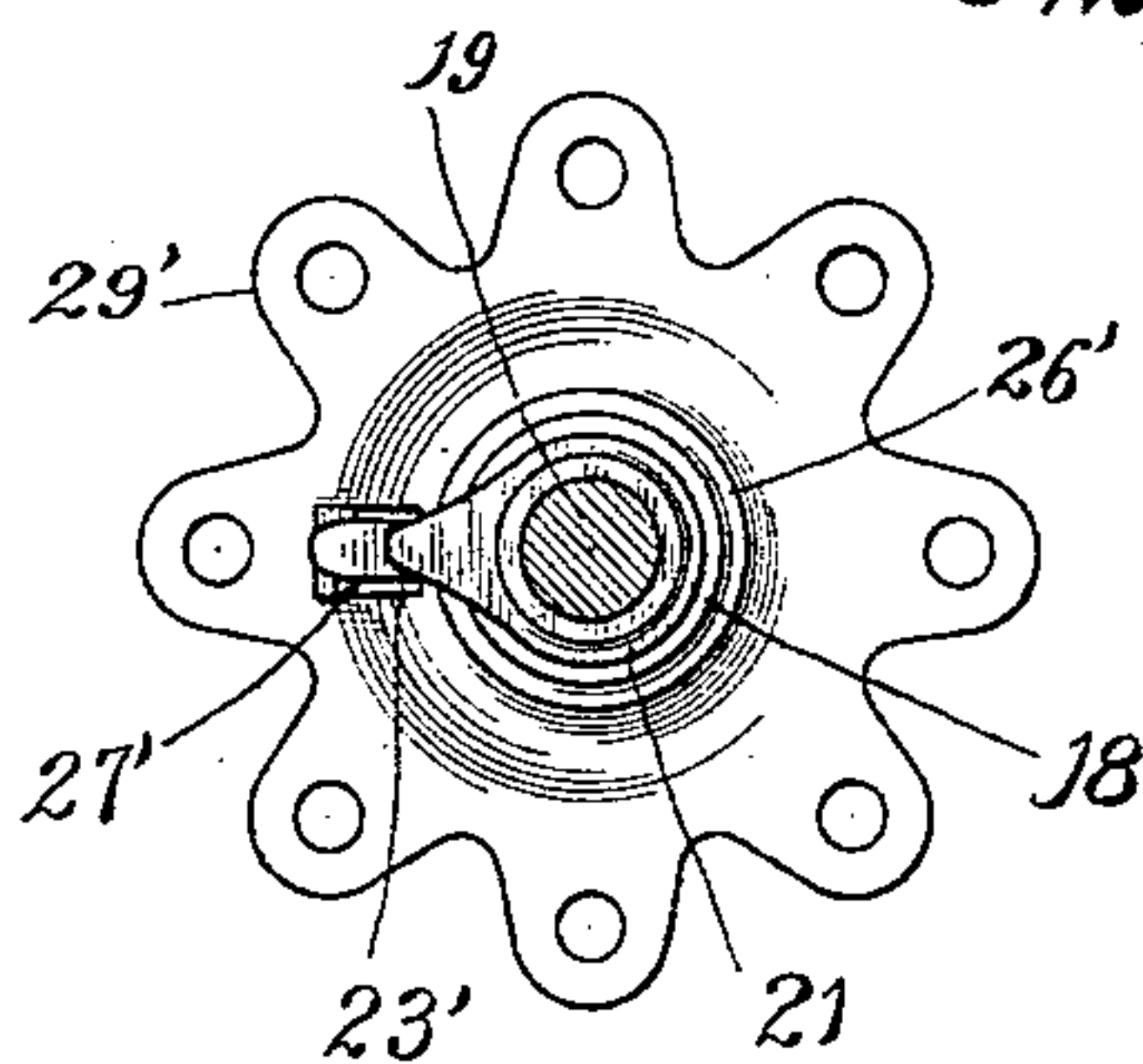


Fig. 8.

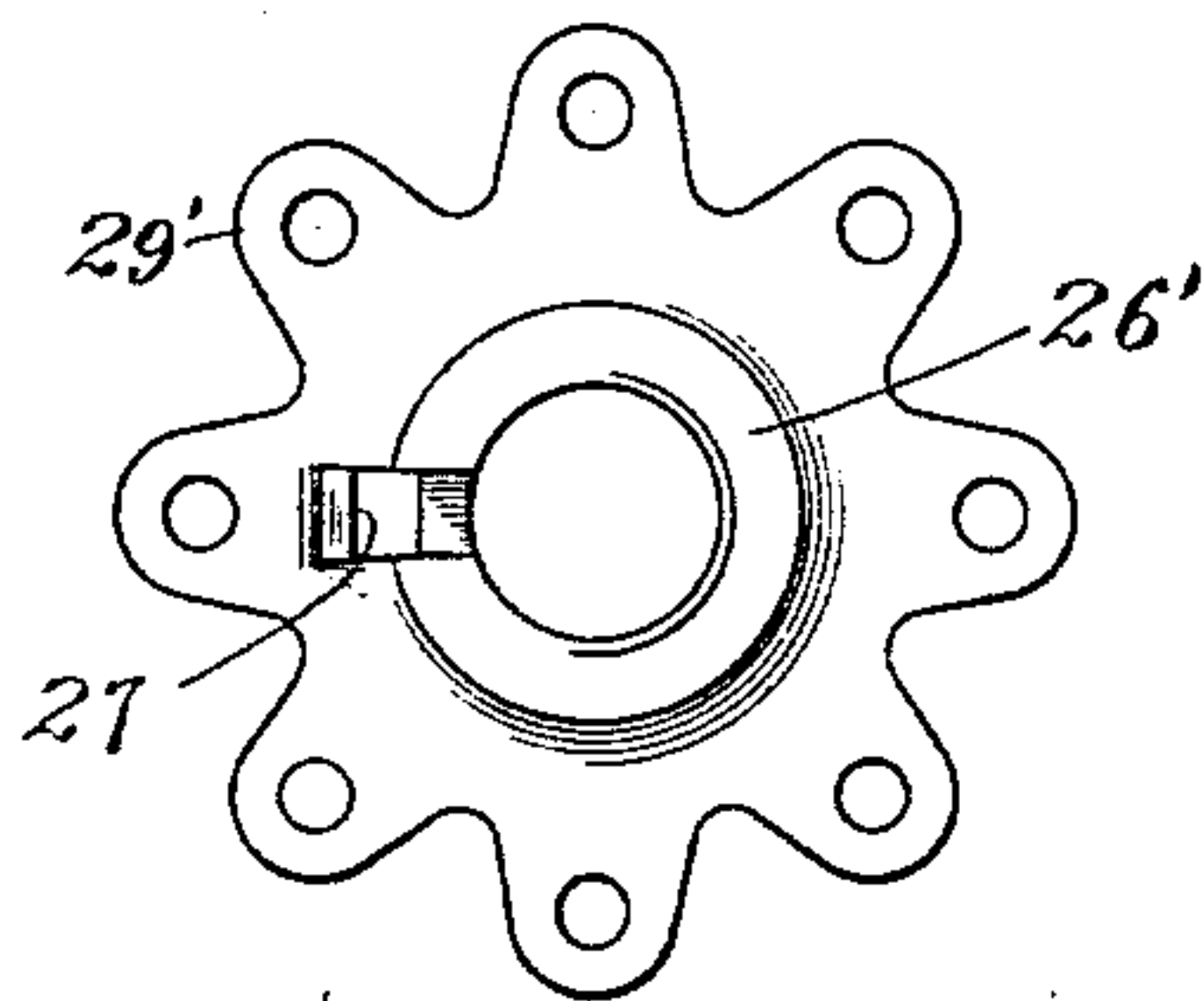
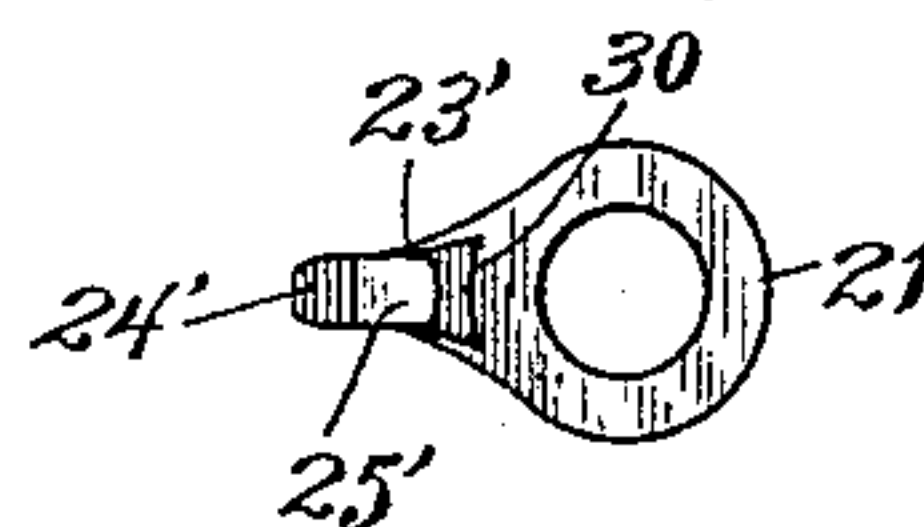


Fig. 9.



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# UNITED STATES PATENT OFFICE.

CARLES C. TRAPP AND FRANK TRAPP, OF PORT WASHINGTON, WISCONSIN,  
ASSIGNORS OF ONE-HALF TO JAMES M. MORGAN, OF SAME PLACE.

## REVOLVING CHAIR.

SPECIFICATION forming part of Letters Patent No. 602,489, dated April 19, 1898.

Application filed February 20, 1897. Serial No. 624,363. (No model.)

*To all whom it may concern:*

Be it known that we, CARLES C. TRAPP and FRANK TRAPP, of Port Washington, in the county of Ozaukee and State of Wisconsin, have invented a new and useful Improvement in Revolving Chairs, of which the following is a description, reference being had to the accompanying drawings, which are a part of this specification.

Our invention consists in the improved means for supporting a chair-seat revolubly in such manner that the height of the seat can be adjusted vertically and that the adjusting devices are locked automatically, preventing the running down of the seat under the weight of ordinary use, while permitting it to revolve freely.

The invention consists in the devices, their parts and combinations of parts and devices, as herein shown and described, or their equivalents.

In the drawings, Figure 1 is an elevation, parts being in vertical section, of our improved devices. Fig. 2 is a plan view of the leg-connecting hub. Fig. 3 is a top view of the nut with a hand-wheel for rotating it. Fig. 4 is an under side or lower end view of the spindle-supporting collar and its depending leg. Fig. 5 shows a binding-plate. Fig. 6 is an elevation, parts being in section, of a modified form of the devices for elevating and lowering the chair-seat and for securing those devices against accidental or improper rotation. Fig. 7 is a section on line 7 7 of Fig. 6, looking downwardly. Fig. 8 is an under side view of the nut shown in Figs. 6 and 7. Fig. 9 is an under side or lower end view of the spindle-supporting collar and its leg.

In revolving chairs, and especially in a chair of this general construction, it is desirable to have the legs so constructed as, while having considerable spread, to not be of great height, or, in other words, to have the hub near the floor. For this purpose the legs 10 10 are so formed as to extend laterally a considerable or at least the usual distance, but so as to rise only to a considerably less height than is usual for chair-legs. To secure these legs to each other and bind them together for a suitable support for the chair-iron devices, a metal hub 11 is provided, which consists of a hollow

upwardly-extending body part 12 and arms 13, radiating from the body 12 at and near the lower end thereof and projecting downwardly obliquely therefrom, the body and arms being provided with upwardly-projecting flanges 14, so disposed on the arms and body as to form downwardly and laterally extending sockets adapted to receive therein the correspondingly-formed ends of the legs 10, which are fitted therein. Below the body 12, between the arms 13 and extending downwardly a distance from the body, there are webs 15, connecting the adjacent arms and with the arms forming a bell or dome-shaped finish on the underside of the hub. The legs 10 are secured to the hub 11 by means of screws 16 16 and a fixed pin 16' or other equivalent devices. A binding-plate 17 is secured to the upper surfaces of the legs 10 by screws or equivalent means and assists in binding the legs to each other. The plate 17 preferably extends over the top of the body part 12 of the hub.

As a means for supporting the chair-spindle revolubly in an upright position and for adjusting it vertically a standard 18 is fixed permanently in the body of the hub 12, and this standard is provided with an axial smooth bore and with an exterior screw-thread. The cylindrical spindle 19 fits revolubly in the bore of the standard 18, and this spindle is provided at its upper extremity with a fixed head 20, which head is adapted for mounting the chair-seat thereon, usually by means of tilting devices. A collar 21, fitted loosely about the spindle 19, is adapted to support the spindle, the head 20 being so constructed as to form an annular shoulder on the upper extremity of the spindle, resting on the collar or on an interposed washer 22. The collar 21 is provided at one side with a thereto-fixed leg 23, depending therefrom alongside of the standard 18, which leg is provided near its lower extremity with a beveled or wedge-shaped bearing-surface 24 and with a laterally-projecting terminal toe 25. A screw-threaded nut 26 turns on the thread of the standard 18. This nut is provided with a groove or channel auxiliary to its central screw-threaded bore, the outer upper portion of the lateral wall of which at 27 is beveled comple-



mentary to and so as to receive thereon the bearing of the wedge-shaped surface 24 of the leg 23 and thereby by the downward pressure of the leg to force the leg inwardly against the standard 18 and thus clamp or bind the nut to the standard against revolution thereon. The leg extends through the nut and the toe 25 takes under the nut 26 and holds the leg 23 and collar 21 thereto against escape therefrom, thus securing the collar and its supported load to the legs of the chair, except by turning the nut off the upper end of the standard 18, so as to permit the withdrawal of the leg from the nut. A pin 28, (preferably a split pin,) inserted through the spindle 19 below the collar 21, prevents the withdrawal of the spindle from the collar 21 by the lifting of the chair-seat. A recess in the lower end of the nut 26 is advisably provided to receive the toe 25 therein, so that normally the end of the leg 23 will be flush with the lower end of the nut. The nut 26 is advisably provided with a hand-wheel 29 or other equivalent means for rotating it conveniently.

It will be understood that in use the nut 26 can be turned up or down on the standard 18, thereby raising or lowering the seat, as desired; also, that the chair-seat, supported by means of the spindle 19 in the standard 18 and its head 20 on the collar 21, will revolve freely without running down, while the leg 23, supporting the seat, is forced down into the nut 26 and is thereby by the wedge-shaped bearing 24 forced against the standard 18 and holds the nut against revolution.

In the modified form of device shown in Figs. 6, 7, 8, and 9 slight changes are made in the construction of the nut 26' and the leg 23', which in a general way correspond with the nut 26 and the leg 23 in the form of device shown in Fig. 1. In the nut 26' there is a vertical aperture for the passage there-through freely and with a little lateral play of the lower end of the leg 23', which aperture is located at a little distance laterally from the central screw-threaded bore of the nut instead of being immediately auxiliary thereto, as in the form of nut shown in Figs. 1 and 3. A part of the outer wall of this vertical aperture is inclined or wedge-shaped, as shown at 27', and there is preferably a recess in the lower end of the nut, between this aperture and the central bore, adapted to receive therein the toe 25' of the leg 23'. The leg 23' is so constructed as to pass freely through the aperture in the nut, while the toe 25' thereon turns inwardly under the lower end of the nut. There is a beveled or wedge-shaped bearing-surface 24' on the leg 23' complementary to and adapted to bear against the inclined surface 27' of the nut, and there is an enlarged part or boss 30 on the inside of the leg 23' opposite the standard 18, which by the downward pressure of the load on the leg 23' is by the

wedging action of the surfaces 24' and 27' against each other forced firmly against the standard 18, thereby binding or clamping the nut to the standard. The scalloped flange 29' on the nut 26' is adapted to serve the same purpose as the hand-wheel 29 on the other form of the nut.

What we claim as our invention is—

1. In a revolving chair, the combination with a hollow screw-threaded standard fixed on supporting-legs, of a nut turning on the standard, a seat-carrying spindle revoluble in the standard, and a collar about the spindle and on which it is supported, said collar being provided with a leg having a wedge-formed surface bearing against a complementary wedge-formed surface in the nut and adapted thereby by reason of the weight on the leg, to lock the nut in place on the standard.

2. In a revolving chair, the combination with a hollow screw-threaded standard fixed on supporting-legs, of a nut turning on the standard said nut being provided with a groove or aperture parallel with its axial bore, a seat-carrying spindle revoluble in the standard, a collar about the spindle and on which it is supported, a leg depending from the collar and provided with a beveled or wedge-formed bearing-surface arranged to bear and wedge against the wall of the groove or aperture in the nut and thereby by the weight thereon to be forced against the standard clamping the nut thereto.

3. In a revolving chair, the combination with a hollow screw-threaded standard fixed on supporting-legs, of a nut turning on the standard, a seat-carrying spindle revoluble in the standard, a collar about the spindle and on which it is supported, a leg depending from the collar and passing through the nut and provided with a wedge-formed surface bearing against a complementary wedge-formed surface in the nut, and a toe on the leg extending under and adapted when lifted to engage the nut.

4. In a revolving chair, the combination with a fixed hollow standard screw-threaded exteriorly and a nut turning thereon, of a seat-carrying spindle revoluble in the standard, a collar loose on and supporting the spindle, a leg depending from the collar at one side and passing through the nut, a toe on the leg arranged releasably to engage the nut, and a pin in the spindle below the collar adapted to prevent the spindle from escaping from the collar.

In testimony whereof we affix our signatures in presence of two witnesses.

CARLES C. TRAPP.  
FRANK TRAPP.

Witnesses:

H. L. COE,  
F. T. MORGAN.